

Work Order ID 85151

85151

Page 1

June-04-12 1:29:15 PM

Item ID: D350-636-016

Accept

N900040100

Setup Start ***NS1***

Revision ID:

Item Name: Skidtube STD w/ Training Wearplates, RH

Stop ***NS2***

Start Date: 04/06/2012 Start Qty: 1.00

1

Cust Item ID:

Required Date: 18/06/2012 Req'd Qty: 1.00

1

Customer:

Reference:

Approvals: Process Plan: *MLJ*

Date: *12/06/04* Tooling:

Date:

Run Start ***NR1***

QC:

Date: SPC (Y/N):

Date:

Stop ***NR2***

Sequence ID/ Work Center ID	Operation Description	Set Up/ Run Hours	Tool ID	Tool #	Plan Code	Accept Qty	Reject Qty	Reject Number	Insp. Stamp
--------------------------------	--------------------------	----------------------	---------	--------	--------------	---------------	---------------	------------------	----------------

Draw Nbr	Revision Nbr
D3492	C
D4168	A
IIN-D350-636	I

100

100

DC

Document Control

DOCUMENT CONTROL

Memo

Photocopy blue file and type labels per PPP D350-636-016 CHG 002

0.00

0.00

DAS 16

003

see attachment

12/06/11

MLJ 12/08/20

W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: _____ PAR #: _____ Fault Category: _____ NCR: Yes No DQA: _____ Date: _____

Resolution: _____ Disposition: _____ QA: N/C Closed: _____ Date: _____

NCR:		WORK ORDER NON-CONFORMANCE (NCR)						
DATE	STEP	Description of NC Section A	Corrective Action Section B			Verification Section C	Approval Chief Eng	Approval QC Inspector
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NOTE: Date & initial all entries

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QC:

Date:

SPC (Y/N):

Date:

Stop ***NR2***

Sequence ID/
Work Center ID

Operation
Description

Set Up/
Run Hours

Tool ID

Tool #

Plan
Code

Accept
Qty

Reject
Qty

Reject
Number

Insp.
Stamp

110

0.00

110

Skidtubes

0.00

Skidtubes

Memo

1- Pick D2600-3 Bent

2- Deburr FWD and AFT ends, remove bending marks. Scribe batch# inside AFT end per dwg D4168

3- Drill pilot holes for blade fitting bolt holes using DT8983. Open to 0.500", deburr, section R-R

4- Locate DT8329 off of blade fitting bolt holes and drill pilot holes for blade fitting, section R-R

5- Drill fwd step holes using DT9616. Ensure proper positioning. All holes as per dwg D4168 Detail J

6- Drill pilot holes as per Dwg D4168 sheet 5 (D4168-2 details). Drill using drill Jig DT8150 & DT8863A for first side only DT8863B for second side (detail K)

7- Clecko DT8863B on second side of tube and drill pilot holes for detail K.
SECOND SIDE

8-Drill most FWD wearplate hole using DT9678 locating of 66.54" hole

9-Open up holes of Detail J to 0.297" (total of 2 holes per side) +.201 iplace per side and open holes of detail M section R-R to 0.500" as per dwg D4168.

10-Weld D2744 Cap as per Dwg D4168 and QSI 004. Fill grooves in bend left from bending as per QSI 004

A/R Aluminum Rod batch: M122130

BE 12/07/27

7 CF 12.7.26

B 12/09/30

Open Fwd Saddle holes (detail L) to 0.500. For inspection purposes only.

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Stop ***NR2***

Sequence ID/ Work Center ID	Operation Description	Set Up/ Run Hours	Tool ID	Tool #	Plan Code	Accept Qty	Reject Qty	Reject Number	Insp. Stamp
--------------------------------	--------------------------	----------------------	---------	--------	--------------	---------------	---------------	------------------	----------------

11-Grind welds flush as per Dwg D4168

BB 12/07/30

120

QC10- Inspect visual per QSI004- ground welds

0.00

120

QC

Memo

0.00

DAS 16 12/07/30

Quality Control

130

QC5- Inspect part completeness to step on W/O

0.00

130

QC

Memo

0.00

DAS 16 12/07/30

Quality Control

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	QC:	Date:	SPC (Y/N):	Date:	Stop *NR2*

Sequence ID/ Work Center ID	Operation Description	Set Up/ Run Hours	Tool ID	Tool #	Plan Code	Accept Qty	Reject Qty	Reject Number	Insp. Stamp
140	Chemical Conversion Coat per QSI005 4.1	0.00							
140									
HandFinish	Memo	0.00							
Hand Finishing									
150	QC7-Inspect Chemical Conversion Coat	0.00							
150									
QC	Memo	0.00							
Quality Control									

1 *TH* 12-7-30

1 *B* 12/07/31

W/O:		WORK ORDER CHANGES					
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Tooling:

Date:

Run Start ***NR1***

QC:

Date:

SPC (Y/N):

Date:

Stop ***NR2***

Sequence ID/
Work Center ID

Operation
Description

Set Up/
Run Hours

Tool ID

Tool #

Plan
Code

Accept
Qty

Reject
Qty

Reject
Number

Insp.
Stamp

160

0.00

160

Skidtubes

Skidtubes

Memo

0.00

1-Open up holes of Detail L and ground handling to 0.625" (total of 8 holes per side)
as per dwg D4168.

2-Open up holes of Detail K to 0.750" (total of 4 holes per side)
as per dwg D4168.

3- Open float hole to 0.500" (4 per side) and Run on wearplate holes to .375" 4 per side

4-Chamfer holes of Detail K,L, ground handling and float holes per dwg D4168 (welding instructions on sheet 9)

5-Deburr and blow out all chips from inside of tube

6- Prepare tube for welding, remove alodine as required.

7-Bond web D2739 in place as per QSI 015

A/R Sikaflex-291

batch: V2

exp. date: 13/03/14

8- Weld spacers D3490-1, D3490-3 and D2743 as per dwg D4168 & QSI004 (welding instructions on sheet 8)

A/R Aluminum Rod

batch: 122120

M122399

9- At section AP-AP drill out x-bolt spacer to 0.404"

10-Grind welds flush as per Dwg D4168

12/08/10

12/07/31

BE 12/08/01

Dart Aerospace Ltd

W/O:		WORK ORDER CHANGES					
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QC: Date:

SPC (Y/N): Date:

Stop ***NR2***

Sequence ID/
Work Center ID

Operation
Description

Set Up/
Run Hours

Tool ID

Tool #

Plan
Code

Accept
Qty

Reject
Qty

Reject
Number

Insp.
Stamp

11-Spot face ground handling holes section (total of 4 places per side) as per
dwg D4168

BB 12/08/01

12- C'bore section CH-CH

13- Deburr holes

BB 12/08/01

***** FOR DELUXE SKIDTUBE IF APPLICABLE DRILL TOW RING
HOLE IN TUBE *****

NO

170

QC10- Inspect visual per QSI004- ground welds 0.00

170

QC

Memo

0.00

DAS
16
2-03

12/08/03

Quality Control

180

QC5- Inspect part completeness to step on W/O 0.00

180

QC

Memo

0.00

DAS
16
2-03

12/08/03

Quality Control

W/O:		WORK ORDER CHANGES					
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Tooling:

Date:

Run Start ***NR1***

QC:

Date:

SPC (Y/N):

Date:

Stop ***NR2***

Sequence ID/
Work Center ID

Operation
Description

Set Up/
Run Hours

Tool ID

Tool #

Plan
Code

Accept
Qty

Reject
Qty

Reject
Number

Insp.
Stamp

190

Pressure Wash per QSI005 4.3

0.00

190

HandFinish

Memo

0.00

Hand Finishing

Re-alodine tube as per QSI 005 section 4.1.2.1 do not acid etch.

1 76 12-8-7

200

White Gloss(Ref:4.3.5.1) per QSI005 4.3-Alum

0.00

200

Powdercoat

Memo

0.00

Powder Coating

START TIME: 1630
OVEN TEMPERATURE: 320°F
FINISH TIME: 2h00

m121481✓

1 2 27 12/08/07.

210

QC3- Inspect Part Finish

0.00

210

QC

✓ Memo

0.00

Quality Control

Inspect for foreign object per QSI 024

IR.HI. 4 12/08/13

W/O:		WORK ORDER CHANGES					
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Tooling:

Date:

Run Start ***NR1***

QC:

Date:

SPC (Y/N):

Date:

Stop ***NR2***

Sequence ID/
Work Center ID

Operation
Description

Set Up/
Run Hours

Tool ID Tool # Plan Code Accept Qty Reject Qty Reject Number Insp. Stamp

220

220

HandFinish

HandFinishing

0.00

Memo

0.00

Hand Finishing

1- Install inserts as per Dwg D4168

IRH d. M 12/08/30

230

230

HandFinish

HandFinishing

0.00

Memo

0.00

Hand Finishing

1-Inspect for Foreign Objects

2-Spray inside of tube with "LPS-3" batch: U1A

3-Install blade fitting D3488-041, wearshoes and ground handling hardware as

per dwg D4168

SIKA FLEX 241

BATCH: 11122130

EXP DATE: 13/03

4-assemble o'ring to plug as per dwg D3492 and apply o'ring lube

A/R 55-o'ring lube batch: 1A110348

5-Coat all exposed fasteners with "LPS Procyon" batch: 1A114596

IRH d. M 12/08/17

W/O:		WORK ORDER CHANGES					
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QC: Date:

SPC (Y/N): Date:

Stop ***NR2***

Sequence ID/
Work Center ID

Operation
Description

Set Up/
Run Hours

Tool ID

Tool #

Plan
Code

Accept
Qty

Reject
Qty

Reject
Number

Insp.
Stamp

240

QC5- Inspect part completeness to step on W/O

0.00

240

QC

Memo

0.00

Quality Control

DAS
16
9-89 17/08/15
Sm/B
12-8/15

250

Pick Kit

0.00

250

Packaging

Memo

0.00

Packaging

If making a D350-636-216
pick kit will only requires:
1 X AN3C37A
1 X AN3C34A
1 X AN3C42A
2 X D3493-1

12/6/2015

260

QC4- 100% Inspect kits for completeness

0.00

260

QC

Memo

0.00

Quality Control

*****ensure antiseize is on AN8C21A bolts*****

DAS
16
9-89 17/08/21

Dart Aerospace Ltd

W/O:		WORK ORDER CHANGES					
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Date:

Tooling:

Date:

Run Start ***NR1***

QC:

Date:

SPC (Y/N):

Date:

Stop ***NR2***

Sequence ID/
Work Center ID

Operation
Description

Set Up/
Run Hours

Tool ID Tool # Plan
Code Accept Reject Reject Insp.
Qty Qty Number Stamp

270

270

Packaging

Packaging

0.00

Memo

0.00

Packaging

Identify and pack for shipping as per PPPD350-636-016

Location: 12C
PPP rev:

12/8/21 sf

280

280

QC

QC21- Final Inspection - Work Order Release

0.00

Memo

0.00

Quality Control

MLJ 12/08/22
MLJ 12/08/22

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Picklist Print

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Start Date: 04/06/2012

Required Date: 18/06/2012

Start Qty: 1.00

Required Qty: 1.00

Comments:

IPP rev:A 10.09.28 new issue DD verf:EC
11.04.14 ecn11-553 DD verf:EC
per NCR 11-906 DD verf:EC

IPP Rev:B
IPP Rev:C 11.10.18 as

Component Item ID/ Item Name	Replacement Item ID	Mfg/ Purch	Bin Item	Primary Location	Last Location	Route Seq ID	Unit of Measure	Qty on Hand	Qty per Kit	Total Qty	Qty Issued	Date Issued	Status
---------------------------------	------------------------	---------------	-------------	---------------------	------------------	-----------------	--------------------	----------------	-------------	--------------	---------------	----------------	--------

D3490-1

Manufactured No

160

Each

45.0000

4

4

D3490-1

Cross Bolt Spacer

**

Location

Loc Qty

Loc Code

LG

2

81976

2

LG001

43

62450

2

74875

4

77042

3

83269

34

D3490-3

Manufactured No

160

Each

46.0000

4

4

D3490-3

Cross Bolt Spacer

**

Location

Loc Qty

Loc Code

LG001

46

83313

46

AN3C34A

Purchased No

230

Each

41.0000

1

1

AN3C34A

BOLT

**

Location

Loc Qty

Loc Code

ST353

41

116075

21

117514

20

BE 12/08/01
B 85419 *4

BE 12/08/01
B 85420 *4

✓
12/08/13 PTO ⇒

Dart Aerospace Ltd

W/O:		WORK ORDER CHANGES						
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector	
12/08/14	230	Assemble with: (1x) MS 21643-3 / M121708 NUT (2x) NAS1149C0332R / M122063 WASHERS AS per drawing.	JA	12/08/13	X1	12-08-23		
							DAS 16 8-83 12/08/13	

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Start Qty: 1.00

Required Qty: 1.00

AN3C36A

Purchased

No

230

Each

162.0000

4

4

AN3C36A

BOLT

**

yl 12/08/13

Location

Loc Qty

Loc Code

FG

4

101261

4

11122491

vt

ST353

158

116590

0

119083

2

119324

23

121388

33

121389

50

121689

50

AN3C37A

Purchased

No

230

Each

141.0000

1

1

AN3C37A

BOLT

**

SD

Location

Loc Qty

Loc Code

ST354

141

116874

11

117010

2

120422

3

121068

75

121585

50

AN3C42A

Purchased

No

230

Each

32.0000

1

1

AN3C42A

BOLT

**

12/8/20 SD

Location

Loc Qty

Loc Code

ST354

32

106176

1

120464

6

121103

25

June-04-12 1:29:19 PM

Shop Packet Print

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Dart Aerospace Ltd

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85151

Parent Item: D350-636-016

D350-636-016

Parent Item Name: Skidtube STD w/ Training Wearplates, RH

Start Date: 04/06/2012

Required Date: 18/06/2012

Start Qty: 1.00

Required Qty: 1.00

D3488-042

Manufactured No

230

Each

9.0000

1

1

D3488-042

Blade Fitting Assembly, RH



**

yl

12/08/17

Location

Loc Qty

Loc Code

FP002

9

1383417

xl

62003

1

77015

1

82258

7

D3492-1

Manufactured No

230

Each

257.0000

8

8

D3492-1

Plug

**

yl

12/08/17

Location

Loc Qty

Loc Code

FP002

242

69531

8

74444

2

76235

4

83259

228

FP-A

15

xl

83098

15

D3492-3

Manufactured No

230

Each

167.0000

8

8

D3492-3

Plug

**

yl

12/03/17

Location

Loc Qty

Loc Code

FP-A

167

81967

5

83099

40

83529

122

1385461

xl

W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: _____ PAR #: _____ Fault Category: _____ NCR: Yes No DQA: _____ Date: _____

Resolution: _____ Disposition: _____ QA: N/C Closed: _____ Date: _____

NCR:		WORK ORDER NON-CONFORMANCE (NCR)						
DATE	STEP	Description of NC Section A	Corrective Action Section B			Verification Section C	Approval Chief Eng	Approval QC Inspector
			Initial Chief Eng	Action Description Chief Eng	Sign & Date			

NOTE: Date & initial all entries

Picklist Print

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Work Order ID: 85151

85151

Parent Item: D350-636-016

D350-636-016

Parent Item Name: Skidtube STD w/ Training Wearplates, RH

Start Date: 04/06/2012

Required Date: 18/06/2012

Start Qty: 1.00

Required Qty: 1.00

D3873-1

Manufactured No

230

Each

462.0000

7

7

D3873-1

Bushing

**

HL

12/08/13

Location

Loc Qty

Loc Code

ST057

6

79561

6

ST067

456

64760

1

68247

4

73829

19

73830

2

76791

410

79560

20

X7

D4154-041

Manufactured No

230

Each

0.0000

1

1

D4154-041

Wearplate Assembly

**

B85812 (K1)

HL 12/08/13

D4170-1

Manufactured No

230

Each

95.0000

4

4

D4170-1

Bushing

**

BE12/08/13

Location

Loc Qty

Loc Code

LG

50

82222

50

LG001

45

71844

5

82043

40

4

D4171-1

Manufactured No

230

Each

22.0000

1

1

D4171-1

Bushing

**

HL

12/08/13

Location

Loc Qty

Loc Code

ST104

22

77008

2

82385

20

Y1

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Shop Packet Print

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W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: _____ PAR #: _____ Fault Category: _____ NCR: Yes No DQA: _____ Date: _____

Resolution: _____ Disposition: _____ QA: N/C Closed: _____ Date: _____

NCR:		WORK ORDER NON-CONFORMANCE (NCR)						
DATE	STEP	Description of NC Section A	Corrective Action Section B			Verification Section C	Approval Chief Eng	Approval QC Inspector
			Initial Chief Eng	Action Description Chief Eng	Sign & Date			

NOTE: Date & initial all entries

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Work Order ID: 85151

85151

Parent Item: D350-636-016

D350-636-016

Parent Item Name: Skidtube STD w/ Training Wearplates, RH

Start Date: 04/06/2012

Required Date: 18/06/2012

Start Qty: 1.00

Required Qty: 1.00

MS21043-3

Purchased

No

230

Each

1,557.000

4

4

MS21043-3

**

HL 12/08/13

Nut

Location

Loc Qty

Loc Code

FG

72

103691

72

GA

14

120693

14

ST30I

1471

118077

2

118614

51

118686

30

119758

20

121255

368

121708

1000

NAS1149C0363R

Purchased

No

230

Each

2,958.000

HL 12/08/13

NAS1149C0363R

**

HL 12/08/13

Washer

Location

Loc Qty

Loc Code

ST297

2958

114742

2958

HL 12/08/13

Dart Aerospace Ltd

W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: _____ **PAR #:** _____ **Fault Category:** _____ **NCR: Yes No** **DQA:** _____ **Date:** _____
Resolution: _____ **Disposition:** _____ **QA: N/C Closed:** _____ **Date:** _____

NCR:		WORK ORDER NON-CONFORMANCE (NCR)						
DATE	STEP	Description of NC Section A	Corrective Action Section B			Verification Section C	Approval Chief Eng	Approval QC Inspector
			Initial Chief Eng	Action Description Chief Eng	Sign & Date			

NOTE: Date & initial all entries

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Work Order ID: 85151

85151

Parent Item: D350-636-016

D350-636-016

Parent Item Name: Skidtube STD w/ Training Wearplates, RH

Start Date: 04/06/2012

Required Date: 18/06/2012

Start Qty: 1.00

Required Qty: 1.00

NAS1515H3L

Purchased

No

230

Each

146.0000

4

4

***NAS1515H3I ***

WASHER

**

HL 1208113

Location

Loc Qty

Loc Code

FG

40

11122151

XL

102472

40

ST277

106

118686

3

119438

1

120360

11

121243

2

121556

89

NAS1611-010

Purchased

No

230

Each

188.0000

8

8

NAS1611-010

O-RING

**

HL 1208113

Location

Loc Qty

Loc Code

FP001

188

110915

14

117460

8

118077

1

118612

3

119438

47

121259

2

121415

4

121584

59

121723

50

11122151

XL

W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: _____ PAR #: _____ Fault Category: _____ NCR: Yes No DQA: _____ Date: _____

Resolution: _____ Disposition: _____ QA: N/C Closed: _____ Date: _____

NCR:		WORK ORDER NON-CONFORMANCE (NCR)						
DATE	STEP	Description of NC Section A	Corrective Action Section B			Verification Section C	Approval Chief Eng	Approval QC Inspector
			Initial Chief Eng	Action Description Chief Eng	Sign & Date			

NOTE: Date & initial all entries

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Work Order ID: 85151

85151

Parent Item: D350-636-016

D350-636-016

Parent Item Name: Skidtube STD w/ Training Wearplates, RH

Start Date: 04/06/2012

Required Date: 18/06/2012

Start Qty: 1.00

Required Qty: 1.00

NAS1611-013

Purchased

No

230

Each

361.0000

8

8

NAS1611-013

O-RING

**

12/08/13

Location

Loc Qty

Loc Code

FP001

361

116582

5

117291

2

117887

53

119623

36

121584

15

121825

200

121826

50

x 8

NAS1149D0863J

Purchased

No

250

Each

251.0000

2

2

NAS1149D0863.J

WASHER

**

SD

Location

Loc Qty

Loc Code

ST298

251

118078

34

119307

17

120308

100

121556

100

2

D2744

Manufactured

No

110

Each

35.0000

1

1

D2744

Cap

**

BE 12/07/27

Location

Loc Qty

Loc Code

LG002

35

62715

1

78900

3

83412

31

1

W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: _____ PAR #: _____ Fault Category: _____ NCR: Yes No DQA: _____ Date: _____

Resolution: _____ Disposition: _____ QA: N/C Closed: _____ Date: _____

NCR:		WORK ORDER NON-CONFORMANCE (NCR)						
DATE	STEP	Description of NC Section A	Corrective Action Section B			Verification Section C	Approval Chief Eng	Approval QC Inspector
			Initial Chief Eng	Action Description Chief Eng	Sign & Date			

NOTE: Date & initial all entries

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Work Order ID: 85151

85151

Parent Item: D350-636-016

D350-636-016

Parent Item Name: Skidtube STD w/ Training Wearplates, RH

Start Date: 04/06/2012

Required Date: 18/06/2012

Start Qty: 1.00

Required Qty: 1.00

D2600-3-BENT

Manufactured No

110

Each

29.0000

1

1

D2600-3-BENT

Extrusion Bent

**

①

CF 12-726

Location

Loc Qty

Loc Code

LG

29

66875

7

73253

1

75021

1

75022

1

75023

1

81330

4

83305

1

83442

13

D2743

Manufactured No

160

Each

296.0000

8

8

D2743

Crossbolt Spacer

**

BE 12/08/01
885459 18

Location

Loc Qty

Loc Code

LG

222

81965

55

83262

167

LG001

74

67766

4

68251

3

73403

64

74445

1

79517

2

W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: _____ PAR #: _____ Fault Category: _____ NCR: Yes No DQA: _____ Date: _____

Resolution: _____ Disposition: _____ QA: N/C Closed: _____ Date: _____

NCR:		WORK ORDER NON-CONFORMANCE (NCR)						
DATE	STEP	Description of NC Section A	Corrective Action Section B			Verification Section C	Approval Chief Eng	Approval QC Inspector
			Initial Chief Eng	Action Description Chief Eng	Sign & Date			

NOTE: Date & initial all entries

Picklist Print

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Work Order ID: 85151

85151

Parent Item: D350-636-016

D350-636-016

Parent Item Name: Skidtube STD w/ Training Wearplates, RH

Start Date: 04/06/2012

Required Date: 18/06/2012

Start Qty: 1.00

Required Qty: 1.00

D2739

Manufactured No

160

Each

13 0000

1

D2739

350 I Beam

**

1

B

12/07/31

Location

Loc Qty

Loc Code

LG

13

72155

1

81508

1

83447

4

83448

5

83548

2

ALS4-1032-225

Purchased

No

88013

230

Each

781.0000

4

4

AI S4-1032-225

Insert

**

HL

12108113

Location

Loc Qty

Loc Code

ST281

758

108696

146

110768

62

118386

55

118966

68

121269

427

ST282

23

120410

10

120451

13

18122290

x4

W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: _____ PAR #: _____ Fault Category: _____ NCR: Yes No DQA: _____ Date: _____

Resolution: _____ Disposition: _____ QA: N/C Closed: _____ Date: _____

NCR:		WORK ORDER NON-CONFORMANCE (NCR)						
DATE	STEP	Description of NC Section A	Corrective Action Section B			Verification Section C	Approval Chief Eng	Approval QC Inspector
			Initial Chief Eng	Action Description Chief Eng	Sign & Date			

NOTE: Date & initial all entries

Picklist Print

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Work Order ID: 85151

85151

Parent Item: D350-636-016

D350-636-016

Parent Item Name: Skidtube STD w/ Training Wearplates, RH

Start Date: 04/06/2012

Required Date: 18/06/2012

Start Qty: 1.00

Required Qty: 1.00

AN8C35A

Purchased

No

230

Each

68.0000

1

1

AN8C35A

BOLT

**

yl

12/08/14

Location

Loc Qty

Loc Code

FP002

67

115960

1

118286

16

121275

50

ST346

1

114442

0

115188

0

115960

1

AN6C44A

Purchased

No

230

Each

86.0000

4

4

AN6C44A

BOLT

**

yl

12/08/14

Location

Loc Qty

Loc Code

FG

2

103964

2

ST343

84

121013

11

121167

13

121440

50

121689

10

11122204

yl

W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: _____ PAR #: _____ Fault Category: _____ NCR: Yes No DQA: _____ Date: _____

Resolution: _____ Disposition: _____ QA: N/C Closed: _____ Date: _____

NCR:		WORK ORDER NON-CONFORMANCE (NCR)						
DATE	STEP	Description of NC Section A	Corrective Action Section B			Verification Section C	Approval Chief Eng	Approval QC Inspector
			Initial Chief Eng	Action Description Chief Eng	Sign & Date			

NOTE: Date & initial all entries

Picklist Print

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Work Order ID: 85151

85151

Parent Item: D350-636-016

D350-636-016

Parent Item Name: Skidtube STD w/ Training Wearplates, RH

Start Date: 04/06/2012

Required Date: 18/06/2012

Start Qty: 1.00

Required Qty: 1.00

MS21083C8

Purchased

No

230

Each

81.0000

1

1

MS21083C8

**

HL 12/08/14

NUT

Location

Loc Qty

Loc Code

304

75

11122141

XL

121185

29

121349

46

FP002

1

115884

1

ST303

4

115884

0

118077

1

119309

2

119638

1

ST304

1

121524

1

D3631-1

Manufactured

No

230

Each

347.0000

8

8

D3631-1

**

HL 12/08/14

Washer

Location

Loc Qty

Loc Code

FG

332

81874

2

83588

330

XB

ST072

15

68062

2

75548

13

AN960C10L

NAS1149C0332

Purchased

No

230

Each

0.0000

4

4

***AN960C10L ***

**

11122063 (x4) HL 12/08/14

washer

Dart Aerospace Ltd

W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: _____ PAR #: _____ Fault Category: _____ NCR: Yes No DQA: _____ Date: _____

Resolution: _____ Disposition: _____ QA: N/C Closed: _____ Date: _____

NCR:		WORK ORDER NON-CONFORMANCE (NCR)						
DATE	STEP	Description of NC Section A	Corrective Action Section B			Verification Section C	Approval Chief Eng	Approval QC Inspector
			Initial Chief Eng	Action Description Chief Eng	Sign & Date			

NOTE: Date & initial all entries

Picklist Print

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Work Order ID: 85151

85151

Parent Item: D350-636-016

D350-636-016

Parent Item Name: Skidtube STD w/ Training Wearplates, RH

Start Date: 04/06/2012

Required Date: 18/06/2012

Start Qty: 1.00

Required Qty: 1.00

D2745

Manufactured No

230

Each

122.0000

8

8

D2745

**

Handwritten: 12/08/14

Bushing

Location

Loc Qty

Loc Code

FP

6

Handwritten: 1385416

Handwritten: X8

79518

6

FP001

116

69529

1

76142

1

83260

114

NAS1149C0832R

Purchased

No

230

Each

257.0000

1

1

NAS1149C0832R

**

Handwritten: 12/08/14

WASHER

Location

Loc Qty

Loc Code

ST297

257

114915

257

Handwritten: X1

Dart Aerospace Ltd

W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: _____ PAR #: _____ Fault Category: _____ NCR: Yes No DQA: _____ Date: _____

Resolution: _____ Disposition: _____ QA: N/C Closed: _____ Date: _____

NCR:		WORK ORDER NON-CONFORMANCE (NCR)						
DATE	STEP	Description of NC Section A	Corrective Action Section B			Verification Section C	Approval Chief Eng	Approval QC Inspector
			Initial Chief Eng	Action Description Chief Eng	Sign & Date			

NOTE: Date & initial all entries

Picklist Print

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Work Order ID: 85151

85151

Parent Item: D350-636-016

D350-636-016

Parent Item Name: Skidtube STD w/ Training Wearplates, RH

Start Date: 04/06/2012

Required Date: 18/06/2012

Start Qty: 1.00

Required Qty: 1.00

AN3C6A

Purchased

No

230

Each

451.0000

4

4

AN3C6A

BOLT

**

HL

12/08/14

Location

Loc Qty

Loc Code

FP001

1

111982

1

ST351

450

111982

2

116419

23

116549

2

116704

12

117619

10

117688

1

117872

5

118422

13

119449

21

120423

3

120693

158

121682

200

XJ

MS21043-6

Purchased

No

230

Each

618.0000

4

4

MS21043-6

NUT

**

HL

12/08/14

Location

Loc Qty

Loc Code

FG

20

103693

20

ST301

598

117887

2

118384

96

120308

500

XJ

Dart Aerospace Ltd

W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: _____ PAR #: _____ Fault Category: _____ NCR: Yes No DQA: _____ Date: _____
 Resolution: _____ Disposition: _____ QA: N/C Closed: _____ Date: _____

NCR:		WORK ORDER NON-CONFORMANCE (NCR)						
DATE	STEP	Description of NC Section A	Corrective Action Section B			Verification Section C	Approval Chief Eng	Approval QC Inspector
			Initial Chief Eng	Action Description Chief Eng	Sign & Date			

NOTE: Date & initial all entries

Picklist Print

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Work Order ID: 85151

85151

Parent Item: D350-636-016

D350-636-016

Parent Item Name: Skidtube STD w/ Training Wearplates, RH

Start Date: 04/06/2012

Required Date: 18/06/2012

Start Qty: 1.00

Required Qty: 1.00

D3493-1

Manufactured No

250

Each

127.0000

2

2

**

54

D3493-1

Washer

Location

Loc Qty

Loc Code

ST050

127

77573

1

82023

26

83097

100

2

2

**

M122452SD

MS21083C8

Purchased

No

250

Each

81.0000

2

2

**

MS21083C8

NUT

Location

Loc Qty

Loc Code

304

75

121185

29

121349

46

FP002

1

115884

1

ST303

4

115884

0

118077

1

119309

2

119638

1

ST304

1

121524

1

2

2

**

M122204 12/18/20 SD

AN8C21A

Purchased

No

250

Each

57.0000

2

2

**

AN8C21A

BOLT

Location

Loc Qty

Loc Code

ST343

57

118758

3

121167

4

121275

50

June-04-12 1:29:19 PM

Shop Packet Print

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W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: _____ PAR #: _____ Fault Category: _____ NCR: Yes No DQA: _____ Date: _____

Resolution: _____ Disposition: _____ QA: N/C Closed: _____ Date: _____

NCR:		WORK ORDER NON-CONFORMANCE (NCR)						
DATE	STEP	Description of NC Section A	Corrective Action Section B			Verification Section C	Approval Chief Eng	Approval QC Inspector
			Initial Chief Eng	Action Description Chief Eng	Sign & Date			

NOTE: Date & initial all entries

Picklist Print

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Work Order ID: 85151

85151

Parent Item: D350-636-016

D350-636-016

Parent Item Name: Skidtube STD w/ Training Wearplates, RH

Start Date: 04/06/2012

Required Date: 18/06/2012

Start Qty: 1.00

Required Qty: 1.00

D2741

Manufactured No

250

Each

20.0000

1

1

D2741

Blade, 350 Skidtube

**

685680 *SL 12/8/20*

Location

Loc Qty

Loc Code

ST

-10

ST466

30

71856

1

79516

19

W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: _____ PAR #: _____ Fault Category: _____ NCR: Yes No DQA: _____ Date: _____

Resolution: _____ Disposition: _____ QA: N/C Closed: _____ Date: _____

NCR:		WORK ORDER NON-CONFORMANCE (NCR)						
DATE	STEP	Description of NC Section A	Corrective Action Section B			Verification Section C	Approval Chief Eng	Approval QC Inspector
			Initial Chief Eng	Action Description Chief Eng	Sign & Date			

NOTE: Date & initial all entries

QTY -041	QTY -042	QTY -043	QTY -044	PART NUMBER	DESCRIPTION
X				D4168-041	350 SKIDTUBE ASSEMBLY, LH
	X			D4168-042	350 SKIDTUBE ASSEMBLY, RH
		X		D4168-043	350 SKIDTUBE ASSEMBLY, LH
			X	D4168-044	350 SKIDTUBE ASSEMBLY, RH
1	1	1	1	D2739	WEB
8	8	8	8	D2743	SPACER
1	1	1	1	D2744	CAP
8	8	8	8	D2745	BUSHING
1		1		D3488-041	BLADE FITTING, LH
	1		1	D3488-042	BLADE FITTING, RH
4	4	4	4	D3490-1	SPACER
4	4			D3490-3	SPACER
		4	4	D3490-5	SPACER
8	8	8	8	D3492-041	PLUG ASSEMBLY
8	8			D3492-043	PLUG ASSEMBLY
		8	8	D3492-045	PLUG ASSEMBLY
8	8	8	8	D3631-1	WASHER
7	7	7	7	D3873-1	BUSHING
1	1	1	1	D4154-041	WEARPLATE ASSEMBLY
1				D4168-1	SKIDTUBE WELDMENT, LH
	1			D4168-2	SKIDTUBE WELDMENT, RH
		1		D4168-3	SKIDTUBE WELDMENT, LH
			1	D4168-4	SKIDTUBE WELDMENT, RH
4	4	4	4	D4170-1	SPACER
1	1	1	1	D4171-1	BUSHING
4	4	4	4	ALS4-1032-225	INSERT
4	4	4	4	AN3C6A	BOLT
1	1	1	1	AN3C34A	BOLT
4	4	4	4	AN3C36A	BOLT
4	4	4	4	AN6C44A	BOLT
1	1	1	1	AN8C35A	BOLT
9	9	9	9	AN960C10	WASHER (OR NAS1149CO363R)
4	4	4	4	AN960C10L	WASHER (OR NAS1149CO332R)
1	1	1	1	AN960C816L	WASHER (OR NAS1149CO832R)
5	5	5	5	MS21043-3	NUT
4	4	4	4	MS21043-6	NUT
1	1	1	1	MS21083C8	NUT
4	4	4	4	NAS1515H3L	WASHER

GENERAL NOTES:

- MATERIAL: MAKE D4168-1/-2/-3/-4 FROM D2600-3 EXTRUSION (INITIAL LENGTH = 120.0).
- FINISH:
CHEMICAL CONVERSION COAT PER DART QSI 005 4.1 PRIOR TO INSTALLING D2739 WEB.
POWDER COAT WHITE (REF. 4.3.5.1) PER DART QSI 005 4.3
BLACK ANTI-SKID PAINT AS INDICATED TO 1.0 ABOVE SKIDTUBE CENTER-LINE PER DART 005 4.4 (OPTIONAL).
- TOLERANCES: PER DART QSI 018 UNLESS OTHERWISE NOTED
- UNITS: INCHES UNLESS OTHERWISE NOTED
- BREAK SHARP EDGES: N/A
- IDENTIFICATION: N/A
- WEIGHT: D4168-041/-042/-043/-044 = 32.3 LBS
- WELD PER DART QSI 004
- FINAL CONFIGURATION SHOULD HAVE THE FOLLOWING MINIMUM MECHANICAL PROPERTIES:
MINIMUM YIELD TENSILE STRENGTH = 35 KSI
MINIMUM ULTIMATE TENSILE STRENGTH = 38 KSI
- COAT ALL EXPOSED FASTENERS WITH LPS LABORATORIES "LPS PROCYON" AFTER FINAL ASSEMBLY, CLEAN EXCESS OFF
POWDER COATING WITH MEK DEGREASER.
- SPACER AND PLUG INSTALLED SAME AS SECTION AJ-AJ EXCEPT HORIZONTAL
- SPACER AND PLUG INSTALLED SAME AS SECTION AP-AP EXCEPT HORIZONTAL

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WITHOUT NOTICE
WORK ORDER

NO. BS151 MJS
12/06/04

RELEASED
2010-09-15

A NEW ISSUE		SC	10.08.09
REV.	DESCRIPTION	BY	DATE
DESIGN	SC	DART AEROSPACE USA, INC.	
DRAWN	SC	PORT HADLOCK, WA	
CHECKED		DRAWING NO.	REV. A
MFG. APPR.		D4168	SHEET 1 OF 11
APPROVED		TITLE	SCALE
DE APPR.		350 SKIDTUBE ASSEMBLY	NTS
DATE	10.08.09	COPYRIGHT © 2010 BY DART AEROSPACE USA, INC. THIS DOCUMENT IS PROPRIETARY AND CONFIDENTIAL AND IS SUPPLIED BY THE COPYRIGHT OWNER UNDER A LICENSE THAT IT IS NOT TO BE USED FOR ANY PURPOSE OR COPIED OR COMMUNICATED TO ANY OTHER PERSON WITHOUT WRITTEN PERMISSION FROM DART AEROSPACE USA, INC.	

W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

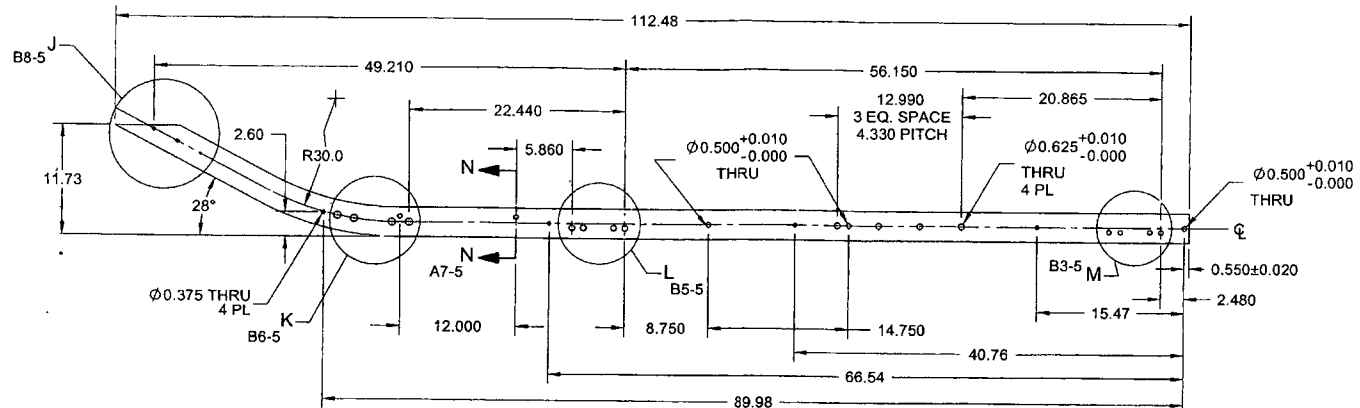
Part No: _____ PAR #: _____ Fault Category: _____ NCR: Yes No DQA: _____ Date: _____

Resolution: _____ Disposition: _____ QA: N/C Closed: _____ Date: _____

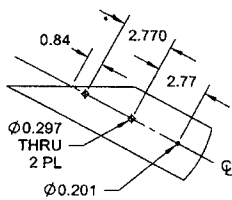
NCR:		WORK ORDER NON-CONFORMANCE (NCR)						
DATE	STEP	Description of NC Section A	Corrective Action Section B			Verification Section C	Approval Chief Eng	Approval QC Inspector
			Initial Chief Eng	Action Description Chief Eng	Sign & Date			

NOTE: Date & initial all entries

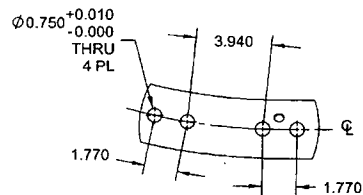
95757



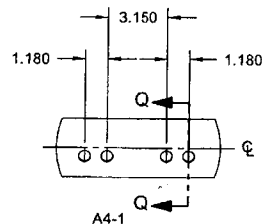
D4168-2 RH SKIDTUBE



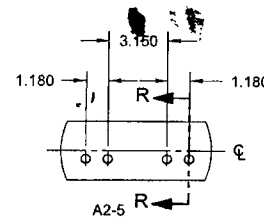
DETAIL J
SCALE 2X



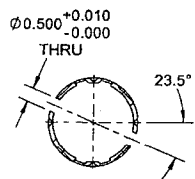
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SCALE 2X



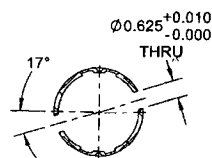
DETAIL L
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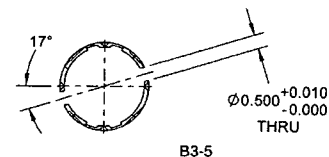
DETAIL M
SCALE 2X



SECTION N-N
SCALE 3X, 2 PL



SECTION Q-Q
SCALE 3X, 4 PL



SECTION R-R
SCALE 3X, 4 PL

DESIGN	SC	DART AEROSPACE USA, INC. PORT HADLOCK, WA	
DRAWN	SC		
CHECKED		DRAWING NO.	REV. A
MFG. APPR.		D4168	SHEET 5 OF 11
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2010-09-15
MD

W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: _____ PAR #: _____ Fault Category: _____ NCR: Yes No DQA: _____ Date: _____

Resolution: _____ Disposition: _____ QA: N/C Closed: _____ Date: _____

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			Initial Chief Eng	Action Description Chief Eng	Sign & Date			

NOTE: Date & initial all entries

W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

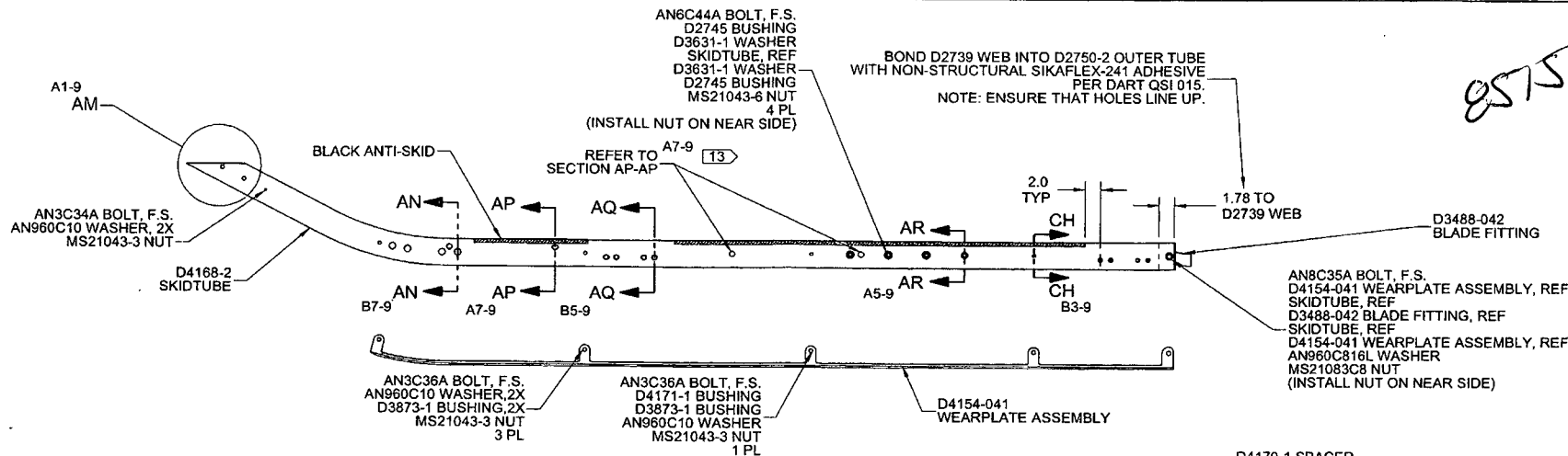
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Resolution: _____ Disposition: _____ QA: N/C Closed: _____ Date: _____

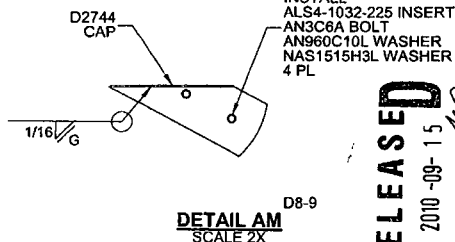
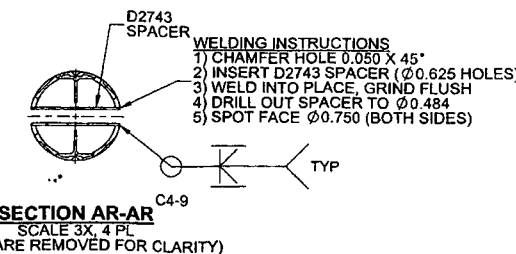
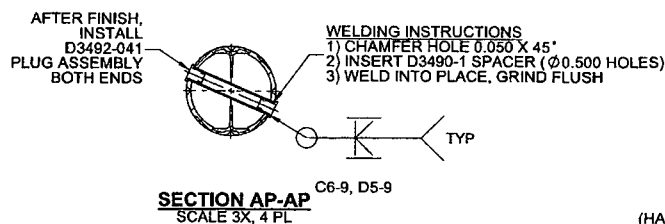
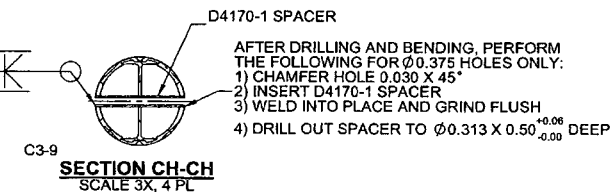
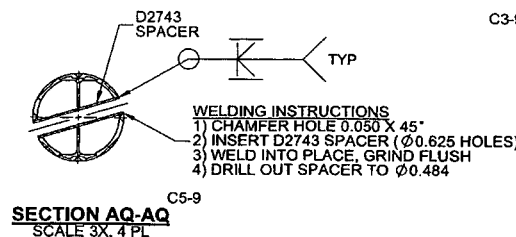
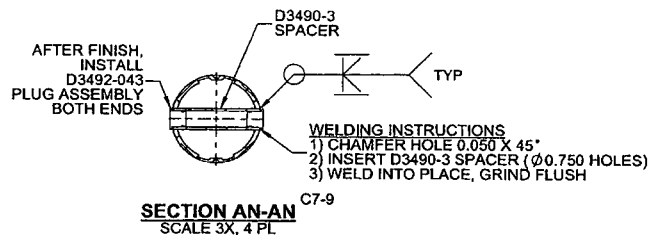
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			Initial Chief Eng	Action Description Chief Eng	Sign & Date			

NOTE: Date & initial all entries

85757



D4168-042 350 SKIDTUBE ASSEMBLY, RH



DESIGN	SC	DART AEROSPACE USA, INC.	
DRAWN	SC	PORT HADLOCK, WA	
CHECKED		DRAWING NO.	REV. A
MFG. APPR.		D4168	SHEET 9 OF 11
APPROVED		TITLE	SCALE
DE APPR.		350 SKIDTUBE ASSEMBLY	NTS
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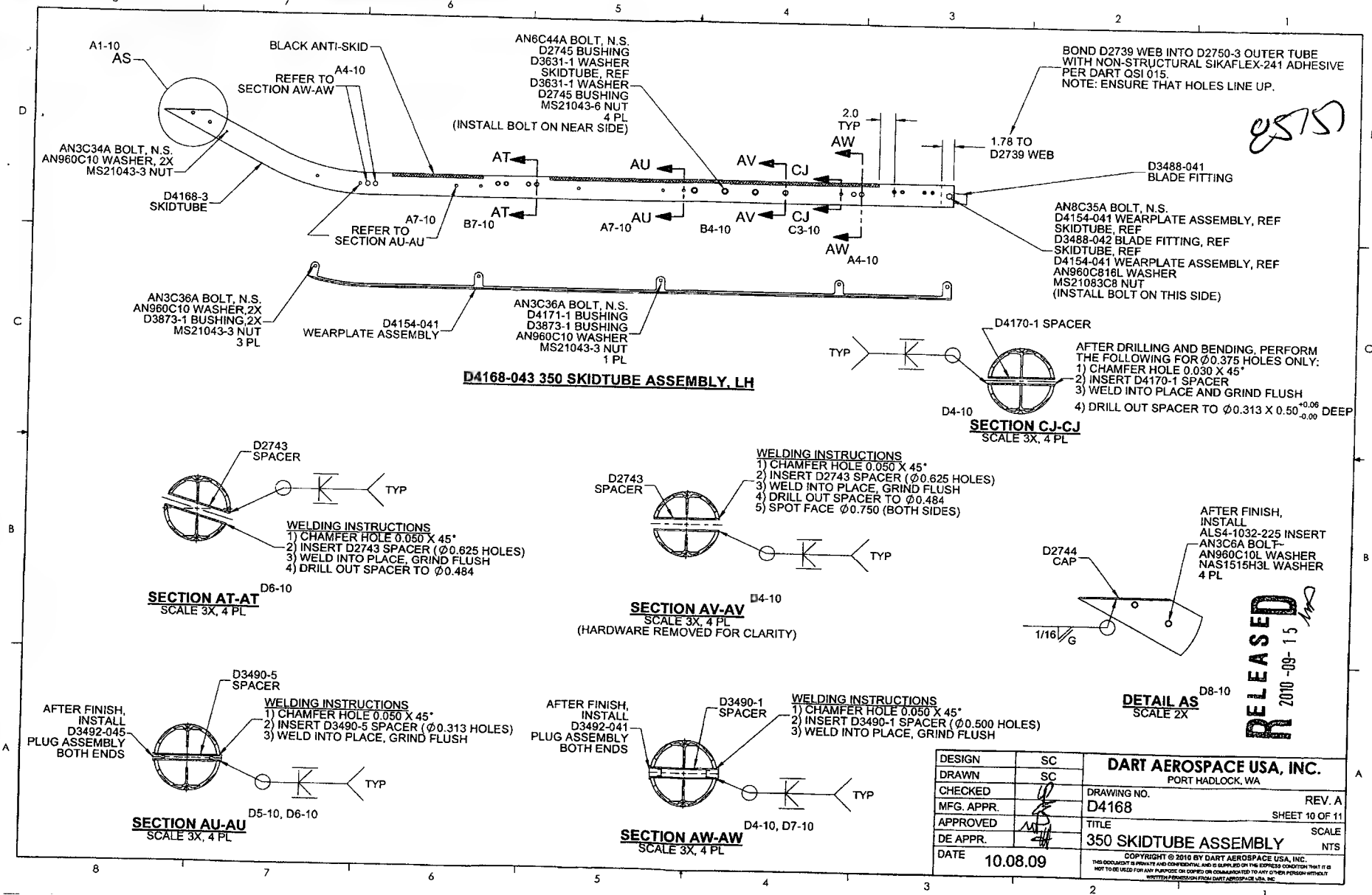
W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

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			Initial Chief Eng	Action Description Chief Eng	Sign & Date			

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DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

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			Initial Chief Eng	Action Description Chief Eng	Sign & Date			

NOTE: Date & initial all entries

NO. 298

AWS D17.1.2001
QUALIFICATION TEST RECORD

Name: Barclay Elliott
Job #: 87012
Part #: A350-636-014
Description: Skid tube
Welding Process: Tig ☒ Mig ☐
Base material: Aluminum
Current: AC ☒ DC ☐

TEST REQUIREMENTS AND RESULTS

Visual:	pass	<input checked="" type="checkbox"/>	fail	<input type="checkbox"/>
Incomplete Penetration:	pass	<input type="checkbox"/>	fail	<input type="checkbox"/>
Incomplete Fusion:	pass	<input checked="" type="checkbox"/>	fail	<input type="checkbox"/>
Cracks:	pass	<input checked="" type="checkbox"/>	fail	<input type="checkbox"/>
Overlap (cold lap)	pass	<input checked="" type="checkbox"/>	fail	<input type="checkbox"/>
Undercut:	pass	<input checked="" type="checkbox"/>	fail	<input type="checkbox"/>
Pin holes:	pass	<input checked="" type="checkbox"/>	fail	<input type="checkbox"/>
Porosity (surface):	pass	<input checked="" type="checkbox"/>	fail	<input type="checkbox"/>
Coloration:	pass	<input checked="" type="checkbox"/>	fail	<input type="checkbox"/>
Burn through:	pass	<input checked="" type="checkbox"/>	fail	<input type="checkbox"/>

Qualifier David Reed Date of Test Coupon 12-07-23

Welder Barclay Elliott Date of Test Coupon 12-07-23

The above named individual is qualified in accordance with AWS D17.1.2001 to weld

Change Record

Part Number D350-636-016

Description SKIDTUBE STD W/TRAINING WEARPLATES, RH

Page 1 of 1[illegible]

NCR: Yes / No

WORK ORDER NON-CONFORMANCE / UPDATE

DQA: _____ Date: _____

QA Closed: _____ Date: _____

Work Order: _____ Part No. _____ NCR No. _____				DISPOSITION Rework <input type="checkbox"/> Scrap <input type="checkbox"/> Use-as-is <input type="checkbox"/> Work Order Update <input type="checkbox"/>		AGAINST DEPARTMENT/PROCESS <div style="display: flex; justify-content: space-between;"> <div> Skid-tube <input type="checkbox"/> Machining <input type="checkbox"/> Thermoforming <input type="checkbox"/> Large Fab <input type="checkbox"/> </div> <div> Crosstube <input type="checkbox"/> Small Fab <input type="checkbox"/> Finishing <input type="checkbox"/> Composite <input type="checkbox"/> </div> <div> Water Jet <input type="checkbox"/> Prod. Eng. Coord. <input type="checkbox"/> Rec/Store/Packaging <input type="checkbox"/> Supplier <input type="checkbox"/> </div> <div> Engineering <input type="checkbox"/> Quality <input type="checkbox"/> Other <input type="checkbox"/> </div> </div>					
Root Cause	Date	Step	Qty	Description of work order update or Non-conformance	Initial Chief Eng	Action Description	Sign & Date	Verification	QC Inspector		
Doc/Data											
Equip/Tooling											
Operator											
Material											
Setup											
Other											
Process											
Supplier											
Training											
Unapproved											

FAULT CATEGORY											
Landing Gear <input type="checkbox"/> Bending <input type="checkbox"/> Centre Not Concentric to O/S <input type="checkbox"/> Cracks <input type="checkbox"/> Crushed/Crimped <input type="checkbox"/> Cuffs <input type="checkbox"/> Heat Treat <input type="checkbox"/> Inspection Strip in Tube <input type="checkbox"/> Ripples in Bend <input type="checkbox"/> Torque Waves in Extrusion <input type="checkbox"/> Turning Sequence <input type="checkbox"/> Wave/Twist in Tube			General <input type="checkbox"/> Bend <input type="checkbox"/> BOM/Route <input type="checkbox"/> Broken/Damaged <input type="checkbox"/> Burrs <input type="checkbox"/> Contamination <input type="checkbox"/> Countersink <input type="checkbox"/> Cut Too Short <input type="checkbox"/> Drill Holes <input type="checkbox"/> Drawing <input type="checkbox"/> Finish <input type="checkbox"/> Folio			<input type="checkbox"/> Grain <input type="checkbox"/> Hardware <input type="checkbox"/> Inspection Incomplete <input type="checkbox"/> Instructions Incomplete/Unclear <input type="checkbox"/> Maintenance <input type="checkbox"/> Mislabeled <input type="checkbox"/> Misread <input type="checkbox"/> Offset <input type="checkbox"/> Out of Calibration <input type="checkbox"/> Out of Sequence <input type="checkbox"/> Outside Dimensions			<input type="checkbox"/> Ovalized <input type="checkbox"/> Over/Under tolerance <input type="checkbox"/> Part Incorrect <input type="checkbox"/> Part Lost/Missing <input type="checkbox"/> Part Moved <input type="checkbox"/> Positioned Wrong <input type="checkbox"/> Power Loss/Surge		<input type="checkbox"/> Pressure/Forced <input type="checkbox"/> Temperature/Cure <input type="checkbox"/> Weld <input type="checkbox"/> Wrong Stock Pulled <input type="checkbox"/> Other